METHOD AND APPARATUS FOR THE HOOKUP OF UNMANNED/MANNED ("HUM"} MULTIPULRPOSE VEHICLES WITH EACH OTHER

ABSTRACT OF THE DISCLOSURE

A system for the hookup of either a manned or unmanned vehicle with a second vehicle which may be refueling. These vehicles may be both airborne, one airborne and the other on the ground or both on the ground. A probe extending from a first vehicle which may be refueled is joined to a paradrogue or "flycatcher" at the end of a boom on a second vehicle which may be a refueling vehicle. . In bringing the probe into the paradrogue an optical sensor on one of the vehicles is employed in conjunction with optical beacons on the other vehicle with the sensor measuring the relative motion between the probe and the paradrogue and generating a control signal for controlling motion of the probe relative to the paradrogue. . The positioning of the probe relative to the paradrogue is accurately controlled during the fueling operation by a reeled cable mechanism utilizing a reel which is driven to wind one end of the cable there around to retain the cable in a tensioned state. The other end of the cable is attached to the refueling vehicle... The cable, probe and the refueling vehicle are in a triangular configuration while allowing only small interaction forces restrains relative motion between the probe and the paradrogue.